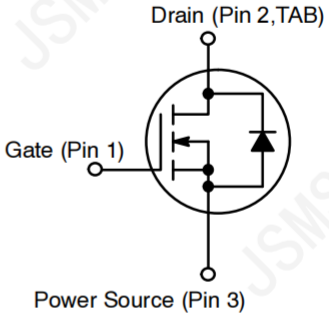
FEATURES

- Fast switching
- Low RDS(ON)
- Trench MOSFET technology
- This is a Pb Free Device
- We declare that the material of product compliance with RoHS requirements and Halogen Free.



APPLICATIONS

- Low Side Load Switch
- Level Shift Circuits
- DC−DC Converter
- Portable Applications i.e. DSC, PDA, Cell Phone, etc.

MAXIMUM RATINGS(Ta = 25°C)

Parameter	Symbol	Limits	Unit
Drain−to−Source Voltage	VDSS	30	V
Gate−to−Source Voltage	VGS	±10	V
Drain Current (Note 1) Steady State (TA = 25°C) (TA = 100°C)	ID	1000 590	mA
Power Dissipation (Note 1)Steady State	PD	715	mW
Pulsed Drain Current (tp = 10 μs)	IDM	3.7	A
Operating Junction and Storage Temperature Range	TJ , TSTG	-55~+150	℃
Lead Temperature for Soldering Purposes(1/8″ from case for 10 s)	TL	260	℃

THERMAL CHARACTERISTICS

Parameter	Symbol	Limits	Unit
Junction−to−Ambient − Steady State (Note 1)	RΘJA	305	℃/W

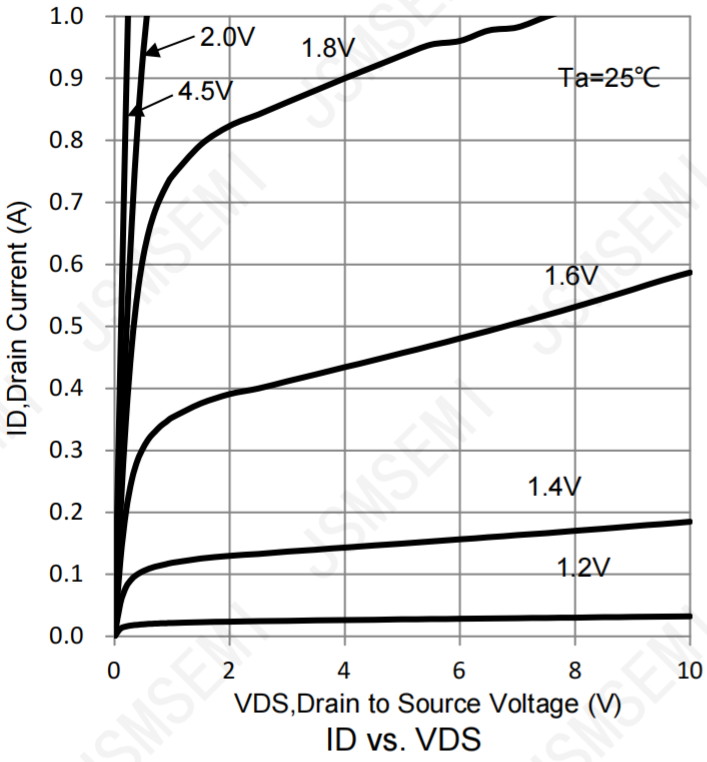
Note 1: Surface−mounted on FR4 board using 1 in sq pad size (Cu area = 1.127 in sq [1 oz] including traces)

ELECTRICAL CHARACTERISTICS (Ta= 25°C)

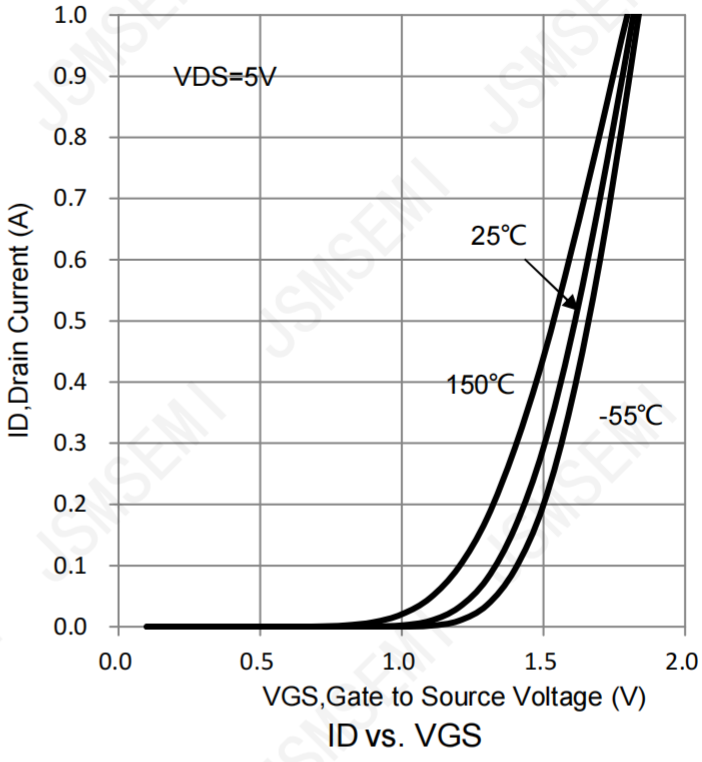
Characteristic		Symbol	Min.	Typ.	Max.	Unit
STATIC CHARACTERISTICS						
Drain-Source Breakdown Voltage (VGS =0V, ID =250μA)		V(BR)DSS	30	-	-	V
Gate Threshold Voltage (VDS =VGS , ID =250μA)		VGS(th)	0.6	1.0	1.2	
Gate-Body Leakage Current (VDS =0V, VGS =±10V)		IGSS	-	-	±10	μA
Zero Gate Voltage Drain Current (VDS =30V, VGS =0V)		IDSS	-	-	1	
Drain-Source On-Resistance (VGS =4.5V, ID = 200mA)		RDS(ON)	-	0.27	0.4	Ω
Drain-Source On-Resistance (VGS =2.5V, ID = 200mA)			-	0.4	0.6	
Diode Forward Voltage (IS =300mA, VGS =0V)		VSD	-	-	1.2	V
DYNAMIC PARAMETERS						
Total Gate Charge	(VDS =15V, VGS =4.5V, ID =1.0A)	Qg	-	0.65	0.87	nC
Gate-Source Charge		Qgs	-	0.14	-	
Gate-Drain Charge		Qgd	-	0.18	-	
Input Capacitance	(VDS =25V, VGS =0V, f=1MHz)	Ciss	-	37	56	pF
Output Capacitance		Coss	-	8.6	-	
Reverse Transfer Capacitance		Crss	-	5.4	-	
Turn-On Delay Time	(VDS =15V, RL =15Ω, VGEN =4.5V, RG =6Ω)	td(on)	-	6.5	13	ns
Rise Time		tr	-	9.5	-	
Turn-Off Delay Time		td(off)	-	14	28	
Fall Time		tf	-	5.5	-	

Note 2: Pulse test; pulse width≤300μs, duty cycle≤ 2%

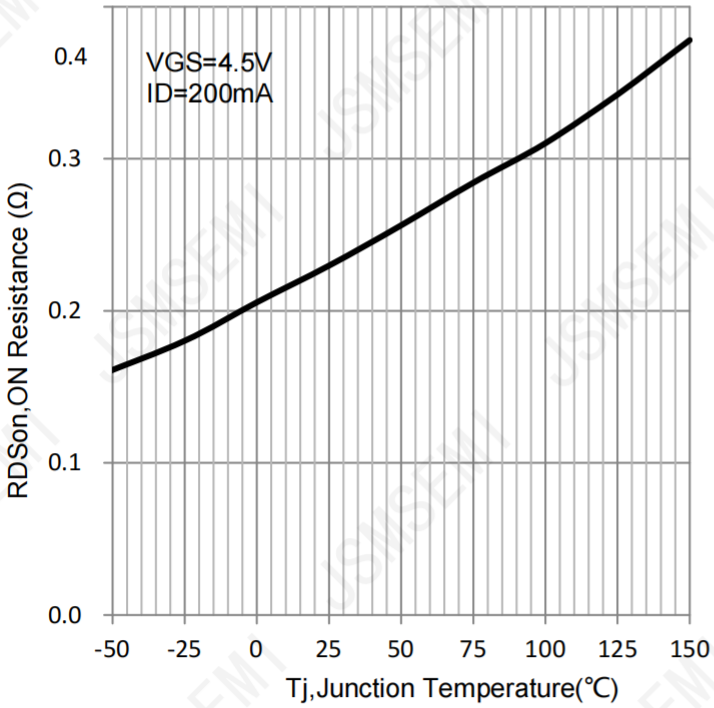
7. ELECTRICAL CHARACTERISTICS CURVES



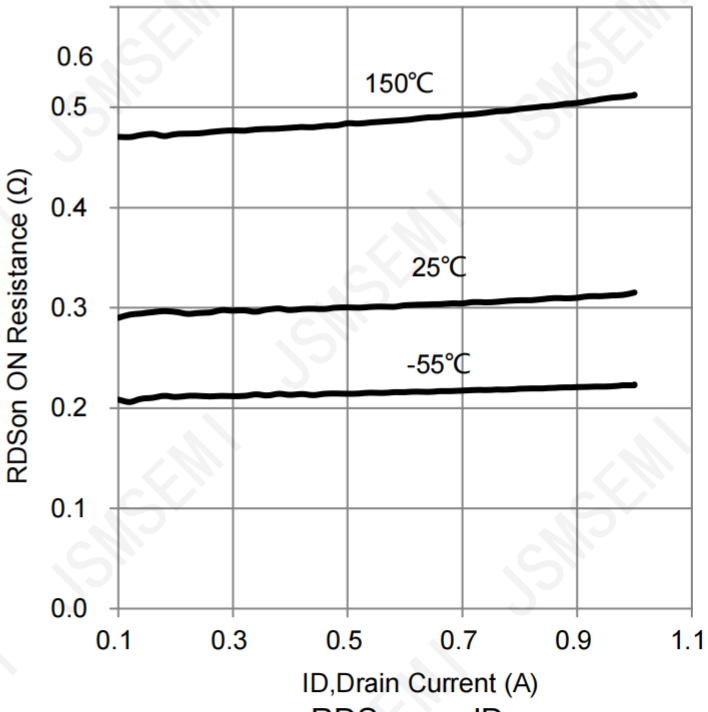
ID vs. VDS



ID vs. VGS

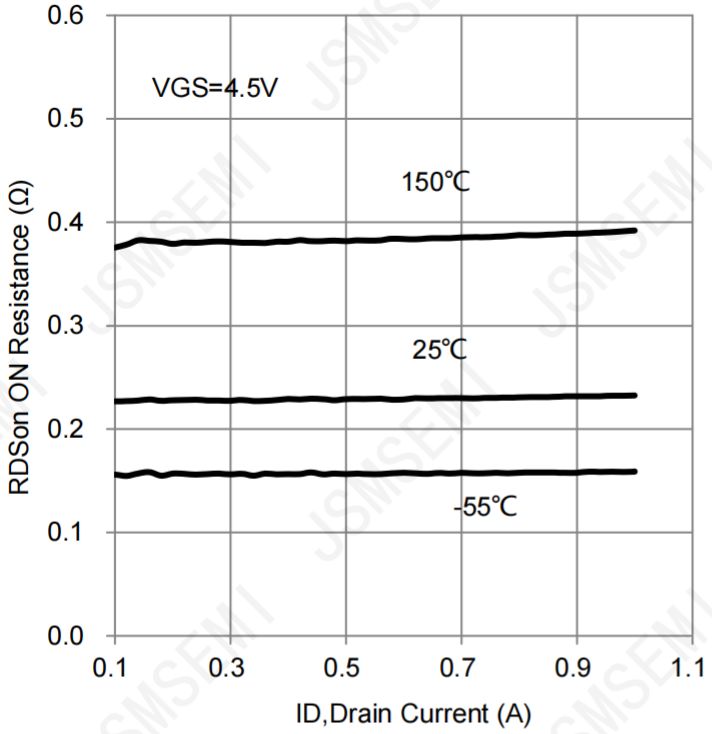


RDSon vs. Tj

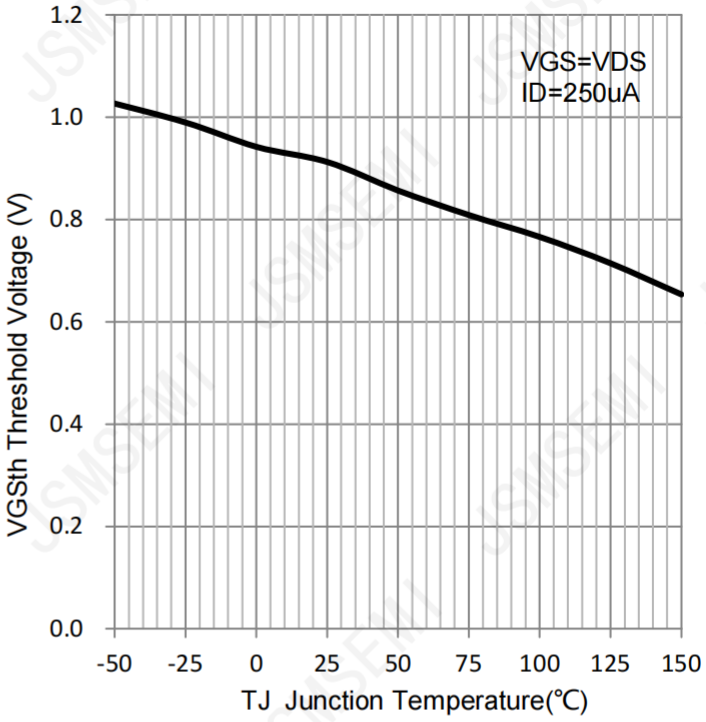


RDSon vs. ID

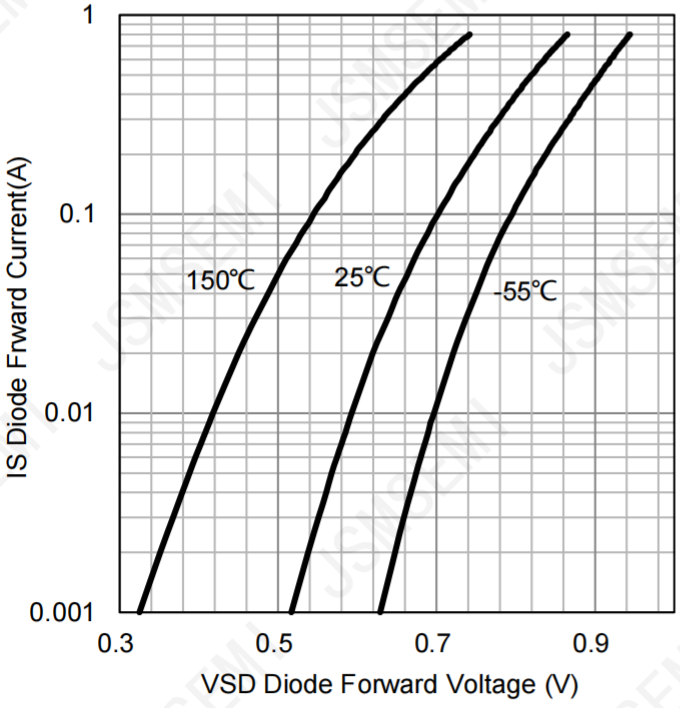
7. ELECTRICAL CHARACTERISTICS CURVES(Con.)



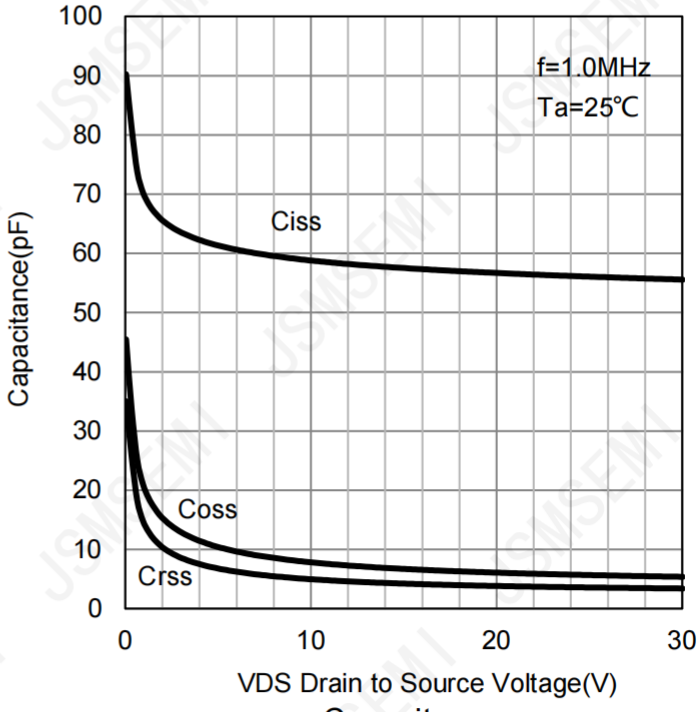
RDSon vs. ID



VGSth vs. Tj



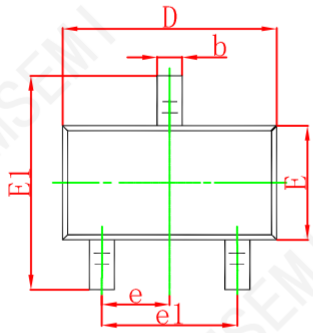
IS vs. VSD

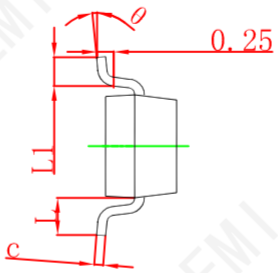


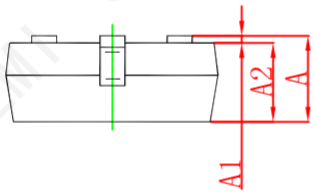
Capacitance

8.OUTLINE AND DIMENSIONS

SOT-23 Package Outline Dimensions

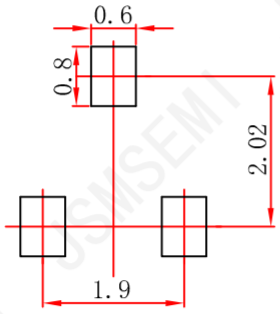






Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.900	1.150	0.035	0.045
A1	0.000	0.100	0.000	0.004
A2	0.900	1.050	0.035	0.041
b	0.300	0.500	0.012	0.020
c	0.080	0.150	0.003	0.006
D	2.800	3.000	0.110	0.118
E	1.200	1.400	0.047	0.055
E1	2.250	2.550	0.089	0.100
e	0.950 TYP		0.037 TYP	
e1	1.800	2.000	0.071	0.079
L	0.550 REF		0.022 REF	
L1	0.300	0.500	0.012	0.020
θ	0°	8°	0°	8°

SOT-23 Suggested Pad Layout



Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm.
3.The pad layout is for reference purposes only.

Revision History

Rev.	Change	Date
V1.0	Initial version	2/23/2024

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